1.0 INTRODUCTION/PURPOSE OF AND NEED FOR THE ACTION

The U.S. Bureau of Land Management (BLM) has prepared this Environmental Impact Statement (EIS) to analyze potential environmental impacts associated with the construction of a new 345 kilovolt (kV) electric transmission line running between the Falcon and Gonder substations in north central Nevada. The project would also involve the expansion and installation of additional equipment at the existing Falcon and Gonder substations. This EIS analyzes the environmental effects of the Proposed Action and the No Action Alternative.

The Proposed Action would:

1. Approve a right-of-way (ROW) application submitted by Sierra Pacific Power Company (SPPC) to construct, operate, and maintain a 165-185 mile long 345 kV transmission line from the Falcon substation to the Gonder substation and expand the two substations (five route alternatives are analyzed in this EIS); and

2. Amend relevant BLM Resource Management Plans (RMPs) to designate a new 3-mile wide utility corridor centered along the Falcon to Gonder transmission line, delete an existing planning corridor along Highway 305, and modify a decision to allow the transmission line and utility corridor to overlap a "low visibility" corridor along Interstate 80 (I-80).

1.1 AUTHORITY AND JURISDICTION

This EIS addresses project-related impacts pursuant to the requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321 et seq., and subsequent implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The EIS was also prepared in conformance with the BLM's NEPA Handbook (BLM Handbook H-1790-1). The BLM Handbook provides instructions for compliance with the CEQ Regulations for implementing the procedural provisions of NEPA and the Department of the Interior's (DOI) Manual on NEPA (516 DM 1-7). This EIS also complies with procedures for Resource Management Plan Amendments found in 43 CFR 1610.

The BLM is the lead federal agency, responsible for both reviewing SPPC's application and amending relevant RMPs when necessary. The project would occur predominantly on public lands managed by the BLM in the Shoshone-Eureka, Elko, and Egan planning areas. The BLM has prepared RMPs to manage resources on these lands. The BLM will need to amend two of these RMPs, depending on which route alternative is selected, because portions of the proposed transmission line would extend beyond BLM-designated utility corridors and cross a low visibility corridor along I-80. Therefore, this EIS also analyzes the effects of proposed RMP amendments (see Chapter 5). The BLM Nevada State Director is the authorized officer for the RMP Amendments.

1.2 PURPOSE OF AND NEED FOR THE PROJECT

Demand for electricity in the western United States continues to grow along with increased population and development, as well as the expanding use of computers and other electronic equipment that has accompanied the new information-based economy. At the same time, this part of the country is facing an array of constraints in maintaining even existing levels of electric power production, such as efforts to improve aquatic habitats (e.g., for endangered salmon) that can in turn reduce the energy supplied by hydropower generation.

New transmission lines, such as the proposed Falcon to Gonder project, increase the flexibility of the power grid system. This allows SPPC and other utilities to share their power supply and transmission facilities, so that they can move electricity across the grid to different parts of the western United States as needed based on seasonal demand. The Falcon to Gonder project would increase SPPC's operational flexibility and meet future customer demands. The project is being proposed now to avoid potential blackouts and service interruptions that could result from projected transmission capacity deficiencies during peak demand.

Based on a forecast of future load requirements, SPPC's current infrastructure will not be able to reliably meet the recommended level of planning reserve for existing or future periods of peak demand. Forecasts of SPPC's firm import requirements show a deficiency in import capacity of 238 MW in summer 2002, 300 MW in summer 2003, and 327 MW in summer 2004.

By providing a new link in the existing regional transmission system, the Falcon to Gonder project would help SPPC meet this expected increase by importing additional power during peak demand periods. The project would also benefit the region through greater flexibility for transmission service, export, reliability, and emergency response.

In a unanimous decision on April 8, 1999, the State of Nevada Public Utilities Commission (PUC) selected the Falcon to Gonder 345 kV line as the best option to meet northern Nevada's growing energy needs. If the Falcon to Gonder project is not approved, SPPC would immediately notify the PUC that it cannot comply with the Electric Resource Planning Opinion and Order of April 8, 1999, and reconfirmed on November 13, 2001, which found that the Falcon to Gonder 345 kV transmission project is in the public interest and is the best option to meet projected energy demands in SPPC's service area. SPPC and the PUC would then begin an emergency planning process to address the projected energy shortfalls.

To further explain the need for the project, this chapter provides background information on the regional transmission network and supply and demand forecasts. A glossary of technical terms and list of acronyms is also provided in Chapter 7 to assist the reader.

1.3 REGIONAL TRANSMISSION NETWORK OVERVIEW

Utility companies provide electricity to over 65 million people in western North America. To reliably provide this energy, western utility companies have constructed over 115,000 miles of transmission lines, ranging in voltage from 115 to 500 kV.

Customer Types

Utilities provide electricity to several types of customers. SPPC, for example, currently serves native load and transmission service customers. Traditional, native load customers served within a service area represent the highest percentage. Larger utilities also serve smaller utilities, which purchase power directly from a host utility or from third parties that transmit one system's power through the transmission facilities of another system. This is called "wheeling." A third type of customer purchases or has purchased rights on a continuing basis from a transmission owner. These customers can be other utilities, independent power producers or brokers.

Planning Reserve Requirement

In addition to providing electricity to its customers, a utility must also satisfy a "planning reserve requirement" – the amount of excess energy that should be immediately available to maintain reliability of the system during an unplanned loss of a source. The Western Systems Coordinating Council (WSCC)

defines different types of reserves. SPPC uses a conservative reserve requirement calculated on the basis of a loss of its largest generating unit plus 5% of native load. Thus, this requirement grows as the demand for electricity grows.

Power Sharing

In the past, utilities typically relied on their own generation resources to serve customer needs. However, some utilities now rely on the regional network to import power instead of generating their own – allowing them to choose less expensive, yet reliable power for their customers. Transmission system interconnections make power imports possible and allow regions with different seasonal load and generation demands to support one another. For example, the Desert Southwest is a summer-peaking load area, while the Pacific Northwest's peak loads come in the winter.

Power Pools

Transmission interconnections also aid the formation of power pools. In pools, utilities share reserve supplies and other services. During emergency situations, utilities can rely on emergency flows and support from neighbor utilities for short periods of time.

Cost and Capacity Information

The Federal Energy Regulatory Commission (FERC) Orders 888 and 889, issued in 1996, help utilities obtain easier access to markets through existing and new transmission interconnections. In tariffs filed with the FERC, owners of transmission facilities were required to make public the cost of using their transmission systems for various services. This lets transmission users evaluate the true cost of using interconnections and select their resources accordingly. Transmission owners were also required to place information about the available transmission capacity (ATC) for their transmission network on the Internet.

Role of the Western Systems Coordinating Council

The WSCC was formed in 1967 to help member utilities, such as SPPC, operate and plan the bulk electric system in the western United States (see Figure 1-1) and portions of Canada and Mexico. The WSCC is one of nine reliability councils under the North American Electric Reliability Council.

WSCC committees aid utilities by monitoring and setting guidelines for new transmission projects. These guidelines help utilities establish ratings for transmission projects and require utilities to assess whether the addition of a new project would have any detrimental reliability impacts on existing facilities. WSCC currently has a three-phase rating process for new or upgraded transmission paths.

On November 10, 1998, SPPC's Falcon to Gonder project entered Phase I of the rating process by submitting a letter to WSCC members announcing the project and describing its scope. Because the project would support an existing interconnection between Nevada and Utah – and is not a new interconnection – SPPC is pursuing a new rating of its existing eastern path. SPPC submitted its "Falcon to Gonder 345 kV Project Comprehensive Progress Report" to the WSCC on March 22, 1999. With WSCC's acceptance of this report on August 27, 1999, the project moved into Phase II of the rating process.

Phase II involved detailed planning studies and review by a group of seventeen western utilities. The group of member utilities accepted the Phase II re-rating report on November 5, 2000. The report was then submitted to the WSCC for a 30-day comment period, and a letter completing the WSCC rating process was issued on December 15, 2000. This process determined what the Falcon to Gonder project's operational capabilities would be.

FIGURE 1-1: WESTERN SYSTEMS COORDINATING COUNCIL REGIONAL TRANSMISSION NETWORK

Relation to Electric Energy Restructuring in Nevada

Like many states, the State of Nevada (through proposed enactment of Senate Bill 438 [1999]) has embarked on a program of electric energy restructuring (popularly misnamed "deregulation"). In the past, in most of Nevada, energy was produced, transmitted through high voltage power lines and distributed to customers by a single, investor-owned utility (i.e., either SPPC or Nevada Power). These two utilities merged in April 1998.

Through energy restructuring, Nevada's retail electricity business would be opened to competition and customers would be able to choose their electricity providers from competing utilities. The services of energy generation, transmission and distribution would be "unbundled." Other energy providers would generate power. SPPC and Nevada Power would sell their Nevada power stations, and would no longer generate electric power in Nevada, but they would continue to operate and maintain the electric transmission and distribution system. The Falcon to Gonder Transmission Project would become part of that transmission system.

The in-state energy generators will continue to be regulated by the Federal Energy Regulatory Commission (FERC). SPPC and Nevada Power, and any generation owned by either company, would be regulated by FERC and the State of Nevada PUC. The Governor, State of Nevada's Bureau of Consumer Protection, and State Legislature are closely reviewing the current law (Senate Bill 438), and seeking ways to avoid the recent problems of high rates and power shortages experienced in California that resulted in part from a flawed energy restructuring policy and program.

The project has no direct relationship to energy restructuring in Nevada. The project's purpose and need statement indicates that it would be needed with or without energy restructuring. Were the Falcon to Gonder Project approved, it would not affect the outcome of Nevada's energy restructuring policy. Construction and operation of new transmission lines by SPPC would be consistent with the mandates of Senate Bill 438. Similarly, because the project does not entail construction of new power generating stations, it would not conflict with the proposed energy restructuring policy in which SPPC and Nevada Power would not operate their own power plants in Nevada. Under energy restructuring, alternative energy producers would pay SPPC or Nevada Power a fee for using the transmission system to transport electricity to their retail customers.

1.4 SIERRA PACIFIC POWER COMPANY'S TRANSMISSION SYSTEM

SPPC is an investor-owned utility based in Reno, Nevada, that is engaged in all aspects of electrical energy – generation, purchase, transmission, distribution, and sale. SPPC serves more than 250,000 retail customers in northern Nevada and eastern California – an area exceeding 50,000 square miles (see Figure 1-2). SPPC also provides transmission service, or "wheeling," to other utilities, including the Bonneville Power Administration (BPA), which delivers power to the Wells Rural Electric Company and Harney Electric Cooperative, Inc.; Mt. Wheeler Power, which delivers power to Ely and Eureka, Nevada; and the Truckee Donner Public Utility District.

FIGURE 1-2: SPPC SERVICE AREA

The SPPC system is interconnected to the WSCC system through the following transmission lines (Figure 1-3):

- One 345 kV line from Humboldt, Nevada to Idaho Power Company (IPC)
- One 345 kV line from Reno to BPA
- One 230 kV line from Gonder to PacifiCorp (merger of Pacific and Utah Power and Light)
- One 230 kV line from Gonder to Intermountain Power Project (IPP)
- Two 120 kV lines and one 60 kV from Reno to Pacific Gas & Electric (PG&E)
- Two 55 kV lines from Silver Peak, Nevada to Southern California Edison Company (SCE)

1.4.1 FORECASTS OF SPPC'S SYSTEM DEMAND/LOAD

In 1999, SPPC sold 8,384 gigawatt-hours (gWh) and had a system peak load of 1,470 megawatts (MW). SPPC's 1998-2017 Amended Electric Resource Plan (ERP) forecasted energy sales of 9,884 gWh by 2004 with a system peak demand of 1,647 MW. A February 2000 load forecast update is included in the 1998-2017 ERP Status Report that SPPC filed with the State of Nevada PUC.

This updated forecast shows energy sales in 2004 increasing to 10,133 gWh with peak demand at 1,729 MW. Table 1-1 and Figure 1-4 present SPPC's projected growth in demand through the year 2004, as shown in the 1998 Amended ERP and the February 2000 Status Report.

TABLE 1-1: FEBRUARY 2000 LOAD FORECASTS (IN MW)

Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer
1999	99/00	2000	00/01	2001	01/02	2002	02/03	2003	03/04	2004
1470	1319	1525	1452	1613	1535	1646	1560	1704	1613	1729

Data from the 1998-2017 ERP, with updated information from the February 2000 ERP Status Report.

Tables 1-2 and 1-3 show how the annual demand for electricity is expected to grow for selected periods and various customer sectors (see the 1998 ERP for further details). These growth rates are approved by the State of Nevada PUC.

TABLE 1-2: SPPC'S ANNUALIZED ELECTRIC GROWTH RATES FOR SELECTED PERIODS

	1999-2001	2001-2018
System Peak Demand	4.9%	2.7%
System Energy Sales	5.4%	2.2%

Source: SPPC 2000

FIGURE 1-3: SPPC TRANSMISSION SYSTEM AND UTILITY INTERCONNECTIONS

FIGURE 1-4: FEBRUARY 2000 LOAD FORECASTS

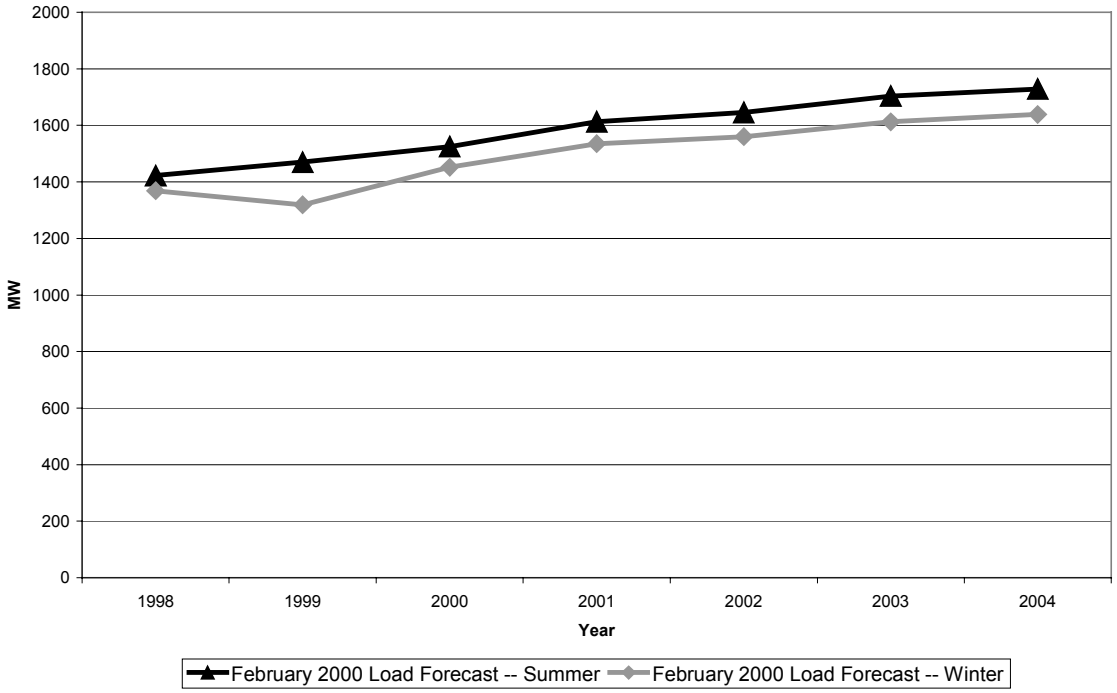

TABLE 1-3: SPPC'S ANNUALIZED ELECTRIC GROWTH RATES FOR CUSTOMER SECTORS

Sector	1999-2001	2001-2018
Residential	2.5%	2.0%
Mining	5.4%	-1.7%
Manufacturing/Warehousing	12.0%	7.5%
Gaming/Recreation	7.4%	3.2%
Office	1.6%	1.2%
All other Sectors	7.7%	3.4%

Source: SPPC 2000

SPPC'S ENERGY CONSERVATION PROGRAM

SPPC supplies electricity to meet demand, but in response to rising energy costs, their Energy Conservation Department has pursued a range of energy conservation and community education programs. The effort was mandated by the State of Nevada PUC and the effectiveness and costs were reviewed by them. Because of high operating costs and relatively minor benefits, the PUCN subsequently ordered the programs dropped a few years ago. Currently, in response to high wholesale energy prices, especially during peak periods, SPPC is re-establishing Energy Conservation Department programs.

A variety of energy conservation programs are being re-established or developed. The programs likely will include more energy audits, community education programs, additional web-based information, cost incentives or financing to install home attic insulation and energy efficient lighting, and possible new rate structures designed to encourage conservation. In February 2001, SPPC had an optional curtailment rate

approved by the State of Nevada PUC for large industrial customers (greater than 1 Megawatt). This provides a lower overall rate and allows SPPC to remove the load during certain use periods.

SPPC'S SUPPLY SYSTEM

SPPC supplies electricity from three sources:

1. Self-owned generation.
2. Non-utility purchases generated within SPPC's service area.
3. Imports purchased from other systems (through six transmission interconnections).

Potential electricity shortfalls and disruptions in service to customers are perhaps most likely during the summer peak. This is because demand is greatest during the extreme heat of summer, which is also when supply is harder to generate. Thermal generation sources produce more electricity when operated in cold winter weather than in warm summer weather. The temperature of the air outside the generators affects the efficiency of post-combustion cooling and the generator's overall efficiency. Cold air increases the generator's output, warm air decreases it. Therefore, SPPC power plants are "derated" approximately 4% below nominal operating capacity when they are operated in warm weather.

Looking at the capacities of its three sources, SPPC's internal generation resources can provide 1,045 MW of capacity in the summer and 1,088 MW in the winter. Non-utility generation provides 70 MW in the summer and 92 MW in the winter. System requirements in excess of the internal generation must be imported. In accordance with WSCC operating criteria, SPPC's ability to import power is limited to a simultaneous rating that depends on conditions in neighboring systems. SPPC is currently limited to 660 MW in imported electricity. The limit would be increased if the Falcon to Gonder project were added to the system.

SPPC's total supply limit is determined by adding the capacity of the three sources together:

Summer : 1,045 MW + 70 MW + 660 MW = 1,775 MW
Winter : 1,088 MW + 92 MW + 660 MW = 1,840 MW

WHEELING LOADS

SPPC also supplies transmission wheeling services to wholesale customers – utilities located within its control area in northern Nevada and eastern California. SPPC passes along to these customers power that was generated by other companies' facilities located outside of SPPC's control area. These utilities contract with SPPC to transmit, or "wheel," power over SPPC's transmission lines. Increasing the capacity of the transmission system offers greater flexibility for utilities to wheel power to customers where and when it is needed most. Table 1-4 lists SPPC's wholesale customers and their summer/winter contracted uses.

TABLE 1-4: SPPC TRANSMISSION WHEELING DEMANDS (MW)

Summer Peak Wheeling Demand	2001	2002	2003	2004
Mt. Wheeler Power	40	40	40	40
Harney Electric	30	30	30	30
Wells Rural Electric 3	80	72	73	73
Truckee Donner Public Utility District	21	21	22	22
Total:	**171**	**163**	**165**	**165**
Winter Peak Wheeling Demand	**2001/02**	**2002/03**	**2003/04**	**2004/05**
Mt. Wheeler Power	22	22	22	22
Harney Electric	2	2	2	2
Wells Rural Electric 3	80	72	73	73
Truckee Donner Public Utility District	30	31	31	32
Total:	**134**	**127**	**128**	**129**

Source: SPPC 2000

SPPC'S SYSTEM RESERVE REQUIREMENTS

SPPC plans and operates its system in accordance with the WSCC Reliability Criteria that sets performance standards for WSCC members in assessing the interconnected system's reliability. To evaluate the relative reliability of the interconnected bulk power system, the WSCC developed Power Supply Design Criteria ("planning reserve criteria"), which provide guidance on the recommended minimum levels of installed and planned generation.

SPPC uses the following WSCC criterion to determine the recommended planning reserve for its system: The monthly reserve capacity after deducting scheduled maintenance should be equal to the largest Risk plus 5% of the utility's total load responsibility. For SPPC, this is equal to approximately 15% of SPPC's total load responsibility. "Risk" is the reduction in capacity caused by the outage of a single generator or transmission line.

Thus, SPPC's planning reserve ranges from 192 MW in winter 1999/2000 to 217 MW in summer 2004.

SPPC'S FORECAST FIRM IMPORT REQUIREMENTS

SPPC expects to have adequate resources to meet the forecast load requirements during the 2000-02 period, but would not be able to meet the recommended planning reserve level in Summer 2003. If the Falcon to Gonder project (or some other capacity improvement project) is not completed by the 2003 summer peak period, SPPC might be forced to curtail some customers during peak load conditions (e.g., rolling blackouts).

This conclusion is reached by examining the total capacity requirements for SPPC's control area, which consists of three components:

- SPPC System Demand/Load
- Non-SPPC Wheeling Loads
- System Reserve Requirements

The sum of these three components determines the total demand. When the total demand exceeds the internal generating resources, the additional requirements must be imported.

A forecast of SPPC's firm import requirements shows a deficiency in import capacity of 211 MW in summer 2001, 238 MW in summer 2002, 300 MW in summer 2003, and 327 MW in summer 2004. The forecast was submitted to the State of Nevada PUC in the 1998-2017 ER and revised on February 23, 2000, to include updated load forecasts and changes in project schedules. This updated forecast was included in the 1998-2017 ERP Status Report filed with the PUC on February 29, 2000.

If the Falcon to Gonder project is placed in-service, SPPC's eastern interconnection (WSCC Path 32) could flow approximately 400 MW east-to-west and 230 MW west-to-east. This would be a significant improvement over the current rating of 245 MW east-to-west and 150 MW west-to-east. Studies show that at these flow levels, there are no negative impacts on adjacent or remote systems, and WSCC reliability planning criteria are met or exceeded.

SPPC'S SYSTEM LIMITATIONS

During peak load conditions, SPPC's existing transmission system does not have adequate capability to serve existing and forecast customer loads in accordance with the WSCC Reliability Criteria. This limitation affects both retail and wholesale customers. Because SPPC has limited access to economical power supplies, retail (or "native load") customers will see reduced reliability and higher energy costs. For wholesale (or "transmission service") customers, their import capability and reliability is reduced, which in turn affects their own customers.

As load demand continues to grow, it would not be possible to serve all customers during peak load conditions without the Falcon to Gonder project, or some other capacity improvement project. Unable to serve all their customers at the same time, SPPC may have to initiate rolling blackouts during peak loading conditions. With existing facilities, SPPC's net system import is limited to 660 MW – which leads to a 300 MW forecast deficiency in import capacity in Summer 2003. By Summer 2004, the capacity deficiency increases to 327 MW, unless additional facilities are constructed.

To address its system limitations, SPPC is required by the State of Nevada to file an ERP with the State of Nevada PUC every three years. This plan includes a 20-year forecast of customer's electric power demand and energy consumption. The ERP integrates energy conservation and load management measures, and presents an approach to obtain supplies of electricity through new facilities to meet these customer needs. The PUC's Opinion and Order provides the mandate for action until it is either revised in an amendment or replaced by the next ERP three years later.

SPPC addressed the limitations discussed in this section in its December 15, 1998, Amended ERP. The PUC issued its Opinion and Order on April 8, 1999, approving two transmission projects to relieve SPPC's forecast capacity deficiencies:

1. The Falcon to Gonder project, which would provide 260 MW of additional import capacity; and

2. The Frenchman Tap project, which would provide 30-35 MW of additional import capacity. This project is currently awaiting a FERC decision on SPPC's FERC 210 Application to interconnect to Oxbow Geothermal Corporation facilities – which is opposed by Oxbow. The project schedule estimates a mid-2002 in-service date.

1.4.2 PRIMARY OBJECTIVES AND DESIGN

PRIMARY OBJECTIVES

In addition to improving the utilization of existing facilities, the Falcon to Gonder project would increase SPPC's import capability by 260 MW for its entire system by strengthening SPPC's eastern interconnection with PacifiCorp and the Los Angeles Department of Water and Power (LADWP). The project would also improve access to markets in Utah, the Desert Southwest, and other markets throughout the WSCC region. Because northern Nevada's weather conditions differ from those of these regions, each region experiences its peak demand and peak capacity at different times of the year – meaning opportunities for power exchanges with other utilities are greater.

PROJECT DESIGN

The new Falcon to Gonder transmission path would provide SPPC with an interface with the PacifiCorp and LADWP control areas (see Figure 1-5). The path includes two 230 kV transmission lines – the Gonder-Pavant 230 kV and the Gonder-IPP 230 kV line. Built in 1975, the Gonder-Pavant line is co-owned by SPPC and PacifiCorp. The line's ownership is divided at the border between Nevada and Utah. The Gonder-IPP line, constructed in 1986, is owned by a consortium of utilities, which also own the IPP. LADWP is the operator of the IPP.

The Gonder substation, near Ely, Nevada, is owned by Mt. Wheeler Power (Mt. Wheeler). It was built under an agreement between SPPC and Mt. Wheeler to supply power to Mt. Wheeler and import power into SPPC's system. SPPC owns the voltage control equipment (230 kV and 13.8 kV reactors, circuit switchers, and vacuum switches) and operates the transmission interconnection for both parties. All other equipment is owned and operated by Mt. Wheeler or the IPP. Both substations are located in SPPC's control area.

There are three major components of the proposed Falcon to Gonder project:

- 345 kV transmission line
- Falcon substation expansion
- Gonder substation expansion

The Falcon substation was selected as one end of the transmission line because it already contains 345 kV facilities and is located close to the Carlin Trend mining area. In 1994, SPPC constructed the Valmy-

Falcon 345 kV line to provide voltage support to serve load growth in the Carlin Trend mining area. The Falcon to Gonder project would provide more voltage support and another 345 kV source to the area. Ending the line at the Falcon substation would also improve the use of 36 miles of existing 345 kV line that connects the Falcon substation with the Valmy generating station. A location at or near the Gonder substation was chosen for the other terminus because it is at SPPC's easterly boundary and an existing interconnection point with PacifiCorp's and IPP's control areas. SPPC proposes to add two 345/230 kV 300 MVA transformers to the Gonder substation's existing facilities.

Initial technical and economic studies evaluated the import capability improvement of operating the line at 230 kV verses 345 kV. The import improvement was approximately 30 MW greater operating at 345 kV than at 230 kV. The voltage support provided to the Carlin Trend area would also be greater at the 345 kV voltage level. The 345 kV voltage level increases opportunities for wheeling power with other utilities.

FIGURE 1-5: EASTERN NEVADA- NORTHERN UTAH TRANS. SYSTEM

1.4.3 PRIMARY PROJECT BENEFITS

INCREASED IMPORT CAPABILITY

Forecast peak demand increases for SPPC's native load customers and the need to maintain adequate reserve requirements are driving the need to increase import capability. Meeting that need is the project's most important benefit. With the addition of the project, SPPC's total system import capacity grows to 920 MW – an increase of 260 MW over the current 660 MW limit. SPPC's eastern interconnection rating would increase to approximately 400 MW (east-to-west), up from 245 MW.

Electrical constraints, such as thermal overloads, transient voltage dips, or post-transient voltage dips, restrict SPPC's import capability either within or just outside its service territory. When SPPC performs planning and operating studies, certain buses (electrical load centers) are monitored for dips in voltage, and certain lines and/or interconnections are monitored for emergency flows (see Table 1-5). These electrical constraints are a combination of WSCC planning criteria, neighboring utilities criteria, and SPPC's own planning criteria.

Each transmission line into SPPC's control area has a rating. The sum of these ratings is 1,170 MW. Because of the constraints previously mentioned, SPPC currently can only import 660 MW. Different analyses are conducted to determine individual transmission line ratings and define SPPC's import limit. These tools, along with the criteria in Table 1-5, are what have been used in studies to re-rate SPPC's eastern interconnection (Path 32).

TABLE 1-5: INDIVIDUAL TRANSMISSION LINE RATINGS

Element	Rating
Drum-Summit 115 kV & 60 kV	108 MW
Gonder-Pavant 230 kV and Gonder-IPP 230 kV (Path 32)	245 MW
Humboldt-Midpoint 345 kV	500 MW
Silver Peak-Control 1 & 2 55 kV	17 MW
Hill Top-Bordertown 345 kV	300 MW
Total:	**1,170 MW**

Source: SPPC 2000

ACCESS TO POWER MARKETS

This increased import capacity would increase access to more economical energy markets and allow greater flexibility to react to regional need, market availability, and price. The project would increase the capacity of interconnections with PacifiCorp and the IPP at the Gonder substation. It would also improve SPPC's ability to utilize existing transmission lines, allowing additional purchases from neighboring utilities over any of SPPC's existing lines.

Native load demands peak during both the summer and winter months in SPPC's service territory. The Falcon to Gonder project would provide better access to Pacific Northwest markets during the summer and to Desert Southwest markets during the winter. The increase in SPPC's import capability could be utilized throughout the year to purchase power through one of three types of purchases – non-firm purchases and firm purchases of either short-term or long-term duration.

Non-Firm Purchases

Non-firm purchases are made through agreements in which power deliveries have limited or no assured availability. A non-firm purchase might come from a hydroelectric power supply when there is an abundance of water supply from precipitation. This power cannot be guaranteed for delivery on a continuous basis. The Pacific Northwest, with its reliance on hydroelectric power, can be a significant market for non-firm purchases. Many opportunities for non-firm purchases are expected to be available from less expensive sources through the additional import capability supplied by the project.

Firm Purchases

Firm power purchases are contracted, either on a short- or long-term basis, and are intended to have assured availability to the purchaser. Long-term purchases of power are made under contracts extending for one or more years. Short-term firm purchases are typically a few hours to a few months to meet load requirements and maintain operating reserve requirements. Most of the future load growth for SPPC's system over the next few years would be met with short-term firm purchases until additional generation resources are added.

1.4.4 SECONDARY BENEFITS AND OBJECTIVES

The Falcon to Gonder project would create a number of other secondary benefits, including:

- New transmission service
- Export benefits
- Communication benefits
- Improved reliability to the 230 kV system
- Emergency response

NEW TRANSMISSION SERVICE

While serving the needs of its transmission customers (i.e., Harney, Wells Rural Electric, Truckee Donner Public Utility District, and Mt. Wheeler), SPPC has requests from other parties wanting access into, out of, or through SPPC's service territory. Many of these requests for transmission service had to be refused due to a lack of capacity. Although it is difficult to estimate the value of these services, up to 250 MW of short-term transmission service (not counting the independent power producer interests) could be accommodated with the addition of the project that otherwise could not be accepted.

EXPORT BENEFITS

Independent power producers have expressed an interest in building within SPPC's service territory. SPPC's present export capability is approximately 300 MW, but could be increased to 500 MW with the addition of the Falcon to Gonder project. If SPPC divests its generation, or other non-utility in-state generation projects are built, the owners of SPPC's former plants or these new plants may wish to export power to buyers outside Nevada. This also drives the need for SPPC to expand the transmission network's ability to export power.

COMMUNICATION BENEFITS

The ability to efficiently control and monitor substation and power line facilities is important to safely and reliably operate an electrical system. The communication to existing facilities along SPPC's 230 kV

transmission line between Yerington and Ely, Nevada, is almost entirely done with a power line carrier system (i.e., a method of communicating by superimposing a signal on the transmission line conductors). This system has been used since the line was built in 1975, and SPPC has considered replacing or upgrading it for a number of years. The Falcon to Gonder project provides the opportunity for SPPC to improve its existing communication system at Gonder substation by leasing high capacity digital communication circuits from a local area provider, such as Nevada Bell. Improving the communication system at Gonder substation with a new lease line would provide a more efficient and redundant communication network to this part of the system, which would greatly enhance SPPC's ability to control and monitor this part of the system.

IMPROVED RELIABILITY TO THE 230 KV SYSTEM

The Falcon to Gonder project would also enhance performance of the Austin 230 kV bus and improve reliability for all customers served by the 230 kV system.

EMERGENCY RESPONSE

The Falcon to Gonder project provides SPPC with a greater chance of being able to withstand a reasonably sever outage (e.g., one week) of its largest transmission element: the 345 kV line to Idaho. During the loss of this line, which is SPPC's main line for importing power, the Falcon to Gonder line would provide increased capacity to SPPC's eastern interconnection over the existing 230 kV lines from Utah. Presently, with the loss of the 345 kV line to Idaho, SPPC's system import capacity is limited to 360 MW, but after construction of the Falcon to Gonder project, this would increase to 520 MW, an increase of 160 MW.

BENEFITS TO MT. WHEELER POWER

The addition of the Falcon to Gonder project would help Mt. Wheeler improve service reliability and security for its customers by providing their supplier, Deseret Generation and Transmission, another transmission path to deliver energy. This could be beneficial during emergency or scheduled outages along their normal transmission path. Another benefit is related to the project's proposed improvements and upgrades to some of the existing 230 kV facilities at the Gonder substation. Some of these facilities are over 25 years old and the proposed improvements would increase the substation's reliability and operational flexibility.

1.5 PERMITS

This EIS and RMP Amendments document should also be useful for other agencies with related interests or permitting authority over the project. Permits that may be required as part of the project are listed below. Regulatory agencies may identify the need for additional permits as the project progresses.

- Grading and Road Improvement Permits (Elko, Lander, and Eureka counties)
- Cultural Resource Use Permits: (1) Survey/Recordation Permit, (2) Survey and Limited Testing Permit, and (3) Excavation and/or Removal Permit (BLM)
- Occupancy or Encroachment Permits (Nevada Department of Transportation)
- Federal Aviation Administration Obstruction Notice (Federal Aviation Administration)
- Nationwide Permit 12, 404/401 Permit (U.S. Army Corps of Engineers)
- Section 401 Water Quality Certification (Nevada Bureau of Water Quality Planning)

- Utility Environmental Protection Act Permit (State of Nevada PUC)
- Temporary Rolling Stock Permit (Nevada Bureau of Water Pollution Control)
- Surface Area Disturbance Permit (Nevada Bureau of Air Quality)
- Stormwater General Permits for Construction, National Pollutant Discharge Elimination System (NPDES) (Nevada Bureau of Water Pollution Control)
- Air Quality Operating Permit (Nevada Division of Environmental Protection)
- Surface Area Disturbance Permit (Nevada Division of Environmental Protection)
- Temporary Rolling Stock Permit (U.S. Environmental Protection Agency; Nevada Division of Environmental Protection)
- Right-of-Way Grant – Transportation and Utility Systems and Facilities on Federal Lands (BLM)
- Temporary Use Permits for construction-related activities (BLM)
- Permit for Construction of a Utility Facility (State of Nevada PUC)

1.6 RESOURCE MANAGEMENT PLAN CONFORMANCE STATEMENT

As some portions of the Falcon to Gonder project would extend outside of BLM designated utility corridors and cross a low visibility corridor along Interstate 80, the project would not be in conformance with BLM Resource Management Plans. Therefore, plan amendments are required. These amendments are described and evaluated in Chapter 5 of this EIS.